

Report for 2005DE57B: The Impact of the Solid Waste Decision on Isolated Wetlands in Delaware

Publications

- Water Resources Research Institute Reports:
 - Duke, Joshua, Steven Hastings, and Matthew Loiacono, 2006, The Impact of the Solid Waste Decision on Isolated Wetlands in Delaware, Delaware Water Resources Center, University of Delaware, Newark, Delaware, 15 pages.
- Other Publications:
 - Loiacono, Matthew, 2006, The Impact of the Solid Waste Decision on Isolated Wetlands in Delaware, undergraduate thesis for undergraduate degree with distinction, University of Delaware, Newark, Delaware, 35 pages.
 - Boyd, Amy, ed., 2005, Delaware Water Resources Center WATER NEWS Vol. 6 Issue 1 "DWRC Announces New Undergraduate Interns for 2005 – 2006", <http://ag.udel.edu/dwrc/newsletters/Summer2005.pdf>, p. 4-5.

Report Follows

Undergraduate Internship Project #5 of 17 for FY05

Matthew Loiacono studied “*The Impact of the Solid Waste Decision on Isolated Wetlands in Delaware*” in his **DWRC** internship, teamed with advisors Dr. Joshua Duke and Dr. Steven Hastings of the **University of Delaware** Department of Food and Resource Economics. His project was co-sponsored by the **DWRC** and the **UD College of Agriculture and Natural Resources**.

“This internship has been a great opportunity for me to explore how wetlands work and what they do for the environment. My research over the summer has allowed me to gain better insight into how wetlands are being protected since the 2001 Solid Waste decision.”

– **Matthew Loiacono**



Abstract

After the U.S. Supreme Court’s *Solid Waste* decision, isolated wetlands were left unprotected. Research was conducted to find out how this decision impacted landowners’ decision making about wetlands—specifically, the characteristics of the isolated wetlands that remained regulated or were freed from jurisdiction by the U.S. Army Corps of Engineers (Corps). Data were collected from Corps records for the Philadelphia region on the population of landowners seeking jurisdictional determinations following *Solid Waste*. These data were enriched by additional data on the area around these landowners’ parcels using GIS data from U.S.G.S. and U.S. Census data. The analysis included descriptive statistics and results of an ordered logit model explaining jurisdictional determinations, the results of which allow several general conclusions about the effect of *Solid Waste* on wetlands and landowner behavior. Without *Solid Waste*, one deduces that only six owners in the region would have had their wetlands freed from jurisdiction. After *Solid Waste*, an estimated 54 additional owners were freed from jurisdiction. The main legal reasons the Corps used to assert jurisdiction were wetlands adjacent to waters of the United States (but not other wetlands) and tributary to a waters of the United States. The major legal reason the Corps freed owners from jurisdiction was isolated, intrastate wetland with no nexus to interstate commerce. In addition, the ordered logit model allows conclusions about the effect of various characteristics of land on the probability of receiving an exemption from jurisdiction. For instance, a 1 percent increase in forest or agriculture within a one mile radius of the parcel increases the chance of getting partial jurisdiction by 20 percent and 19 percent, respectively. Owner decision making also affects jurisdictional determinations. For instance, Delaware owners actively seeking a jurisdictional determination had a 13% increase in probability of moving from partial jurisdiction to full freedom from jurisdiction.